



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6

1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

September 8, 2015

Mr. Darwin Messer
U.S. Army Corps of Engineers
Fort Worth District
819 Taylor Street, Room 3A37
P.O. Box 17300
Fort Worth, TX 76102-0300

RE: Surface Coal and Lignite Mining Draft Regional Environmental Impact Statement (DEIS) for Multiple Counties in Texas

Dear Mr. Messer:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office, Dallas, Texas has completed its review of the proposed project by U.S. Department of Army Corps of Engineers (USACE). The DEIS describes and analyzes the potential effects from one alternative action and the No Action alternative relating to geology, mineral and paleontological resources, water resources, soils and reclamation, vegetation, fish and wildlife resources, cultural resources, air quality and climate, land use and recreation, social and economic values, transportation, noise, visual resources, hazardous material and solid waste, public health, environmental justice, energy requirements and conservation potential, irreversible and irretrievable commitment of resources, and the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity.

EPA has rated the DEIS as EC-2, i.e.; (Environmental Concerns and Request Additional Information). EPA's rating system can be found at <http://www.epa.gov/oecaerth/nepa/comments/ratings.html>. We have enclosed detailed comments that identify our concerns and recommendations for additional analysis in the Final EIS (FEIS).

EPA appreciates the opportunity to review the DEIS. Please note that a copy of this letter will be published on our website, <http://www.epa.gov/compliance/nepa/eisdata.html>, in order to fulfill our responsibility under Section 309 of the CAA to inform the public of our views on the proposed Federal action. Please send our office one copy of the FEIS when it is filed using our *e-NEPA Electronic Filing System* at <http://www.epa.gov/compliance/nepa/submiteis/index.html>. If you have any questions or concerns, please contact Kimeka Price at (214) 665-7438 or price.kimeka@epa.gov for assistance.

Sincerely,

A handwritten signature in dark ink, appearing to read "William Hayden", is written over a circular official stamp.

William Hayden, Acting Chief
Office of Planning and Coordination

Enclosure

**DETAILED COMMENTS
ON THE
U.S. DEPARTMENT OF THE ARMY CORP OF ENGINEERS
DRAFT REGIONAL ENVIRONMENTAL IMPACT STATEMENT
FOR
SURFACE COAL AND LIGNITE MINING
IN MULTIPLE COUNTIES IN TEXAS**

The following comments are offered for USACE's consideration in preparation of the FEIS:

Environmental Justice and Impacted Communities

There were 485 mail-outs and 18 newspaper notices, and 110 participants at public scoping meetings. Considering public participation, scoping activities, and the extent of the proposed project, a more comprehensive communication strategy is suggested.

Recommendation:

A more comprehensive communication strategy is recommended using other forms of media such as radio and television, as well as social media. Collaboration with federal agencies working on environmental justice action plans is also recommended.

A typical mine expansion area or satellite mine may displace households in any of the six study areas or counties. According to the DEIS, the displacement is not anticipated to be concentrated in one particular study area or county, and unlikely to fall disproportionately on the minority community. The DEIS also states that all residents would experience similar circumstances of noise and visual effects, depending on the locations of their properties, irrespective of their income or race. Under the No Action Alternative, the impacts on minority and low-income populations would be similar to those described for the Proposed Action.

While minority populations in some of the study areas are proportionately larger than in the state as a whole, any environmental effects that may occur from the development of mine expansion areas or satellite mines would affect the population in each study area equally, without regard to race, ethnicity, age, or income level. Without knowing the precise location of mine expansion areas or satellite mines, it is not possible to determine whether displaced residents or those living near would be members of disproportionately low-income or minority populations.

Recommendation:

FEIS should incorporate an analysis using EJSCREEN¹ or similar environmental justice data-based information and resources when evaluating displacements near the mine expansion areas or satellite mines.

¹ EJSCREEN allows users to access high-resolution environmental and demographic information for locations in the United States, and compare their selected locations to the rest of the state, EPA region, or the nation. The tool helps users identify

Consultation and Coordination with Indian Tribes

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249; November 6, 2000), requires regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes. Although the DEIS mentions Government to Government consultation as significant and mandatory; it does not list the names of the Tribes that could potentially be affected.

Recommendation:

The FEIS should include the complete descriptions of consultation and coordination activities, including the names of all of the Tribes which could potentially be affected. These documents would demonstrate fulfillment of Tribal consultation duties by the lead agencies and Tribal government engagement.

Wetlands

EPA was given certain responsibilities in conjunction with the Corp of Engineers for protecting the environment in CWA 404 permitting. When the lead agencies for this project apply for a CWA 404 permit, EPA will be required to comment on the USACE Public Notice at that time. Our review will seek to ensure that the EIS promotes contemporaneous wetland replacement and mitigation during the mining process, mitigation is designed to be self-sustainable, and sustainable riparian corridors are emphasized. Specifically, stream restoration efforts should avoid the use of structures and focus on establishing stream and riparian corridors with natural channel features and adequate room for the stream to develop a stable channel.

General Comments Related to Ground Water and Surface Water Impacts

The DEIS does not address most of the ground water and surface water comments originally offered by EPA on the preliminary DEIS. Additionally, there is no mention of EPA's recommendation to characterize baseline ground water quality conditions in the document entitled "Scoping Summary Report for Region EIS for Surface Coal and Lignite Mining in the State of Texas". In reviewing Appendix D – Comprehensive List of Substantive Scoping Documents of the Scoping Summary Report, EPA's recommendations on ground water and surface water do not appear to be listed. The DEIS is deficient with respect to characterizing and monitoring ground water, assessing potential impacts to ground water, and describing protection and mitigation measures for ground water. These deficiencies are further described in the Specific Comments presented herein.

The DEIS is deficient in evaluating the potential impacts to surface water. It focuses on surface water runoff and storm water runoff, but does not adequately discuss impacts from ground water outflows. The DEIS should describe in more detail the potential flow path from contaminated ground water within backfilled mine spoils (overburden/interburden) to undisturbed ground water to surface water at areas of ground water upwelling or outflow. It should also assess the loss of surface water flow (spring flow or base flow) from dewatering and depressurizing operations (i.e., drawdown) and potential mitigation measures to address such water loss (decrease in water quantity) and water rights. The DEIS tends to minimize the importance of this issue with statements that the impacts from future mines would be confined to mine-related ground water drawdown areas. This seems irrelevant if such drawdown areas extend beyond the mine permit boundary to surface water drainages affected by spring flow or base flow.

There should be discussion in the DEIS of the need to establish baseline ground water and surface water quality and hydrologic flow regimes through monitoring prior to initiation of mine development and construction activities. Without establishing baseline conditions prior to mining, it is difficult to understand the nature and extent of adverse impacts to ground water and surface water during mining and post mining and the degree of mitigation that would be required. A baseline water quality and hydrologic assessment would include the installation and sampling of upgradient and down gradient monitoring wells in overburden, coal-bearing, and underburden aquifers and the analysis of ground water and surface water samples for all potential contaminants (*e.g.*, target analyte list metals, other inorganics, total dissolved solids (TDS), pH, and uranium) for an adequate period of time to assess baseline conditions. Continued monitoring of ground water and surface water quality and hydrologic flow regimes would need to be continued throughout mining and after cessation of mining until all known impacts are mitigated.

In the DEIS there is some discussion of the potential impacts to surface water and ground water from "toxic- and acid-forming materials in pit spoils and surface water runoff, but the DEIS does not identify what these materials may be, how ground water and surface water could be impacted by them, or how they would be tested and, if necessary, mitigated. The DEIS focuses on salinity (TDS) as the only significant parameter to assess impacts to ground water. This is based on potential impacts of concern identified in studies by the Railroad Commission of Texas (RCT), but the DEIS presents no analytical data on other potential contaminants such as metals. The Wilcox Group and Clairborne Group formations may have significantly high concentrations of pyrite and other sulfide minerals which, when exposed to oxygen and water in backfilled spoils, may cause acid rock drainage and the dissolution of metals from the waste rock. Metals dissolved from waste rock by acidic water could potentially contaminate ground water at concentrations exceeding state ground water standards or federal drinking water standards. Metals and acidity could also impact surface water along ground water to surface water flow paths at concentrations exceeding state surface water standards or federal ambient water quality criteria.

There is very little discussion of the applicable state or federal statutes and regulations for ensuring the protection of ground water and the abatement (or mitigation) of ground water contamination at surface coal and lignite mines. Such discussion should be included in the DEIS. It

should also include regulations to protect recharge zones of aquifers. It may also be appropriate to discuss the role the Texas Water Development Board and its ground water monitoring program, regional water planning groups, ground water conservation districts (GCDs) and the GCD requirement to adopt ground water management plans under the Texas Water Code, and River Authorities.

The DEIS mentions the RCT requirements for “protection of the hydrologic balance” and a Hydrologic Reclamation Plan specific to local conditions. More discussion is needed on these RCT requirements.

Specific Comments Related to Ground Water and Surface Water Impacts

1. Executive Summary, Table ES-4 – Summary of Direct and Indirect Impacts by Resource or Impact Issue and Recommended Monitoring and Mitigation:

Under Water Sources, USACE recommends no monitoring or mitigation measures for drawdown of aquifers, ground water quantity or ground water quality. EPA disagrees with this recommendation. The reasons are as follows:

- a. For *drawdown of aquifers*, it is indicated for the Proposed Action Alternative that extent of drawdown could be up to 15 miles (Study Area 4), but the mine-related pumping impacts for future mines would be confined to the portion of the affected aquifers within a mine-related ground water drawdown area. It is not clear what this statement is intending to mean. Will drawdown impacts not go beyond the mine permit boundary? Is the “mine-related ground water drawdown area” to be within the mine permit boundary? There is no definition of this area in the DEIS. If drawdown goes beyond the permit boundary and impacts the availability or quantity of ground water (or surface water) for other users, then mitigation measures should be proposed. Further, monitoring of hydraulic drawdowns would be necessary to understand the changing hydrologic flow regimes during and after mining and the extent of the impacts off site.
- b. For *ground water quantity*, the table states that the effects on other ground water uses would depend on the extent of the required mine depressurization and dewatering, but such impacts would be confined to the mine-related ground water drawdown area. Again, the concerns with such statements are the same as discussed in the first bullet statement above.
- c. For *ground water quality*, the table states that ground water quality in mine pit backfill areas may have elevated levels of salinity, however, impacts to ground water due to increased salinity would be minimal in all study area. USACE provides no assessment or data showing known concentrations of metals or other potential contaminants in ground water in backfill areas and undisturbed areas, yet in the REIS it is stated several times that impacts to ground water could occur from toxic- or acid-forming materials from backfill mine spoils. The recommendation for no monitoring or mitigation measures for ground water quality is not supported.

2. Section 2.0 – Alternatives Including the Proposed Action:

A new section entitled “Typical Pre-Mine Development Phase” should be added before Section 2.2.4.1 (Typical Construction Phase) that discusses required activities to be initiated prior to mine development. Such activities would include the installation and sampling of monitoring wells in overburden, coal-bearing, and underburden aquifers, including alluvial aquifers if present, to fully characterize hydrologic flow regimes and develop baseline ground water quality. Pre-mine development activities would also include surface water sampling at stations upstream and downstream of mine permit areas as well as along mine reaches for baseline water quality and stream flows. Sampling stations should include areas of known ground water recharge or that would receive permitted storm water discharges pursuant to the Texas Pollutant Discharge Elimination System (TPDES) permitting program.

3. Section 2.2.4.2 – Typical Operations Phase, Overburden and Interburden Removal, page 2-17 – 2-19:

- a. In lines 38 and 39 on page 2-17, the statement that the overburden would be selectively handled, as needed, to ensure placement of a minimum cover of suitable growth media (a minimum of 4 feet) is unclear. Further discussion is needed with regard to specifics on how the overburden and interburden waste rock will be managed, including regrading, revegetation, potential use of amendments, and performance standards for the 4-foot thick cover, as well as the applicable regulations governing cover placement. In addition to soil stabilization and erosion control, is the 4-foot cover to be designed to prevent precipitation from infiltrating and percolating through the overburden/interburden mine spoils that may cause acid rock drainage and metals dissolution, which could contaminate ground water? If so, what are the performance criteria for preventing infiltration? This needs to be explained. If the cover is not intended to prevent acid rock drainage and metals dissolution to protect ground water, that should be stated as well.
- b. More discussion is needed on the statement “Growth media and prime farmland soils, where present, would be hauled directly to and redistributed on regraded areas to the extent possible” in lines 39-41 on page 2-17. Are there performance standards for the growth media or soils to be used for cover and will such materials be imported if not present at the site?
- c. It is recommended that the overburden/interburden material should be characterized for mineralogy, especially pyrite and other sulfide minerals, and acid generating potential.

4. Section 2.2.4.3 – Typical Closure and Reclamation, pages 2-19 and 2-20:

- a. In lines 39-42 on page 2-19, it states that the long-term reclamation goals for a typical mine include maintaining drainage patterns and water quality and quantity. Further explanation on the intent of this statement is needed regarding water quality and quantity. Is this

intended to mean surface water and ground water? What is the appropriate water quality and quantity? What are the applicable regulatory standards or criteria that define this level of reclamation or mitigation?

- b. A discussion is needed in this section on the applicable state and federal laws and regulations for the protection of ground water, the abatement of ground water contamination and the protection of surface water.
 - c. A discussion is needed in this section on the potential for overburden and interburden mine spoils to generate acid rock drainage and metals dissolution (i.e., toxic- and acid-forming materials) and what reclamation or mitigation activities would be needed to prevent impacts to ground water, and surface water as a result of ground water outflow, or restore ground water and surface water to state and federal standards or criteria. Such discussions should also include impacts to water quantities from mine drawdown and potential reclamation/mitigation options.
 - d. For lines 34-36, see Specific Comment No. 3.a, above, regarding “selective handling” of overburden and interburden materials.
5. Section 2.2.5.2 – Water Resources (ground water, surface water, and waters of the U.S., including wetlands), page 2-28:
- a. In the first bullet statement, it is stated that water supply wells impacted by mining operations would be replaced with new wells. It is recommended that other mitigation measures be considered for ground water contamination. The following is recommended: 1) an assessment of the extent of ground water contamination based on monitoring data and baseline or natural background water quality, 2) replacement of any water supply well (including private water for domestic or irrigation use), and 3) mitigation measures to restore contaminated ground water to applicable state and federal standards.
 - b. In the second bullet statement, it is stated that mine spoils would be selectively placed in backfill areas to ensure that naturally occurring acid- or toxic-forming materials are 4 feet or greater below final grade. First, it is noted that the extent of toxic or acidic material formation in mine waste rock that has been excavated and then backfilled into mine pits is not considered naturally occurring. The excavation and break up of overburden and interburden rock and the placement of these materials into a mine pit as spoils where they are exposed to oxygen and water and can generate toxic or acidic waters that impact ground water and surface water are the responsibility of the mine and should be stated so. It should also be stated what measures will be taken to prevent the generation of toxic- or acid-forming materials within the spoils as the pits are allowed to resaturate and mitigation measures to address such impacts within and downgradient of the spoils if they occur. The purpose and performance standards of the 4-foot soil cover for protecting ground water should be discussed as well.

- c. In the fourth bullet statement, it should be made clear if the sediment control ponds will be lined to protect against infiltration of storm water or surface water effluent to ground water.
- d. In the second to last bullet statement, it should be made clear what potential water quality impacts would be minimized by the stated mine-specific state-required plans. Does this pertain to surface water impacts or both surface water and ground water impacts? These plans may only protect surface water from storm water discharges and runoff.
- e. In this section, similar to other sections, there should be a description of the state and federal laws and regulations for ensuring protection of water resources (including ground water) or the mitigation of water resource impacts from surface coal and lignite mining, and the regulatory authorities that enforce such laws and regulations.

- 6. Table 2-10: Summary of Direct and Indirect Impacts by Resources or Impact Issues and Recommended Monitoring and Mitigation, page 2-44:

See Specific Comment No. 1, above.

- 7. Section 3.0 – Affected Environment and Environmental Consequences:

For each of the six (6) study areas the assessment tends to minimize the importance of ground water pumping and drawdown from surface coal and lignite mines with statements that the degree of ground water pumping from such mining, in comparison to other volumes of ground water pumped for municipal and agricultural purposes, are small. This seems irrelevant if there are impacts to ground water quantity as well as surface water flow that affect other potential users or aquatic habitat.

- 8. Section 3.1.1.2 – Study Area Descriptions, page 3.1-10:

A discussion is needed in this section on the mineralogy of the Wilcox Group and Claiborne Group formations in each study area, including pyrite and other sulfide minerals, and the potential for overburden and interburden rock comprised of these formations to generate toxic- or acid-forming materials (e.g., acid rock drainage and metals dissolution).

- 9. Section 3.2.2 – Water Resources-related Regulations, page 3.2-1:

It is not clear from the regulations listed in this section which will require protection of ground water, reduce the potential for impacts to ground water, and require mitigation of ground water impacts caused by mining operations. This needs to be discussed thoroughly.

- 10. Section 3.2.4.2 – Surface Water Environmental Consequences (Study Areas 1-6):

- a. Lines 40-42 on page 3.2-71 state *“Surface water quality may be adversely affected by the weathering of acid or toxic materials, and transport of weathering products in either runoff*

or ground water seepage.” This discussion should be expanded to identify what the potential toxic or acid materials may consist of and the sources of such materials (e.g., acid rock drainage and metals dissolution from the weathering and oxygenation of sulfide minerals in overburden/interburden waste rock spoils). The discussion also needs to specify what “weathering products” may be transported. Are metals and acidic waters transported to surface water from the mine waste spoils in the backfilled pits? How do they get to surface water? What is the meaning of “ground water seepage” as used in this context? Are there any surface water or ground water analytical data (metals data) that document the occurrence and magnitude of these effects? If there are, they should be discussed and presented in a table in the DEIS. If there are no data, it should be stated that there are no data.

- b. Lines 22-24 on page 3.2-73 state “*Where groundwater pumping is necessary for mining, drawdown would affect aquifers within and near the permit area. In turn, this may reduce groundwater outflows discharging to springs and nearby streams.*” Lines 37-39 state “*During mining, there may be some reduction of downstream surface water quality caused by discharges from mine sites to receiving waters, but existing uses and water quality sufficient to protect those existing uses must be maintained in compliance with state law.*” More discussion is needed on what potential actions, if any, could be taken to minimize the impacts from ground water pumping on aquifers and springs/streams. Also, the state law should be identified.
- c. Line 29 on page 3.2-73: A discussion should be included on what toxic or acidic materials could potentially form. Also, it would be appropriate to discuss the need to test for such materials (e.g., Target Analyte List for metals, other inorganic constituents, and other contaminants such as uranium in ground water and surface water samples). Uranium should be tested as uranium ore deposits are mined in Texas and, if present, may pose a potential concern if it is dissolved from waste rock spoils and leached to ground water at concentrations above the federal maximum contaminant level (MCL).
- d. Lines 21-21 on page 3.2-74 state “*In general, the potential for adverse impacts to surface water would be reduced by complying with specific RCT requirements to avoid acid or toxic drainage...*” A discussion is needed on the specific RCT requirements. Also, do the specifics include reducing acidic or toxic drainage from the mine waste spoils in backfilled pits to ground water? As previously discussed, such acidic drainage could impact surface water at zones of ground water discharge.